## REVIEW

*Weeds.* By W. C. Muenscher. xvi + 560 pp., 135 figs. (Second Edition). MacMillan Company, New York. 1955. $10.00.

Public service, an important function of tax-supported institutions, represents an integral part of the work at the University of California Herbarium. The Herbarium staff daily serves the people of the state by answering numerous requests for information about plants of horticultural or agricultural importance. Many of these requests have to do with the identification of weeds. Thus we who do this work are particularly appreciative of the recently published second edition of W. C. Muenscher's well-known "Weeds."

"Weeds" was originally published in 1935. Although the second edition follows the same pattern, Part I ("General: Weeds and Their Control") is more or less completely rewritten, and Part II ("Weeds Arranged According to Family, Together With Key") adds 71 new weeds to the original 500. The most outstanding change in the Second Edition is the deletion from Part I of the discussion on chemical control. This change was effected because of the recognition that chemical control has become a subject too complex and too significant to be treated concurrently with weed identification within a single treatise. The prime purpose of the second edition of "Weeds" thus becomes their identification. Control in the broad sense is not neglected, however, for its various manual aspects are carefully treated, the importance of biological and chemical control are mentioned, the most significant references to chemical control are given in the text, and in addition many references to the various phases of control are included in the over 300 titles listed at the end of the book under "Literature References."

It is to be regretted, however, that a few outstanding references to the still experimental field of biological control were not included in the body of the text as is done for chemical control, nor are such references singled out from the terminal list of "Literature References" via footnotes in the text.

Considered as out-of-place, unwanted plants, weeds are discussed as to their economic importance, their alarmingly successful ability for seed production, their multifarious methods of dissemination, their amazingly effective methods of vegetative reproduction, and consequently their frequently ubiquitous and omnipresent occurrence. All these are subjects of vital importance to the intelligent application of eradication or control methods. Prevention, eradication, and control, and the practical methods for obtaining each of these objectives are discussed. Control is of course the most limited objective, but often the only possible one.

In Part II ("Weeds Arranged According to Family, Together With Key") the key leads directly to species, rather than first to families and then to genera. The single key thus runs through 40 pages, a feature which cannot help but lead to some cumbersomeness although this is minimized by skillful handling. The arrangement of genera and species is alphabetical under the families which are in the usual Englerian sequence. Three hundred of the species are illustrated by line drawings. Of special interest in the careful treatment of each species is the short paragraph on control.

California, being a state of highly varied topography and climate and consequently of great agricultural diversity, has attracted a plethora of alien plant species. For the identification of these California aliens, which number well over 700, there is already available the semi-technical but very readable and highly useful "Weeds of California" by W. W. Robbins, M. K. Bellue, and W. S. Ball (Dept. of Agri. State of California, second edition, 1951). Many of Muenscher's 571 weeds do not occur in California, and conversely many weeds known from California are outside of Muenscher's territory and are not listed in his book. In many ways, however, his book complements "Weeds of California," particularly in the much fuller general discussion and in the specific statement of control for each species listed. It is unfortunate that the price of such a useful book could not be lower. Helen K. Sharsmith, Department of Botany, University of California, Berkeley.